LISTING OF THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) An overcurrent protection circuit for a power switching transistor wherein the power switching transistor has a control electrode and [two] first and second main electrodes, the first main electrode coupled to a first terminal of a storage capacitor, a second terminal of the storage capacitor coupled to a reference potential, the circuit comprising:

a sensing circuit, including a protection switch, for sensing the rate of change of voltage with respect to time at [one of] the first main electrode[s] of the power switching transistor wherein the rate of change of voltage is proportional to the magnitude of the current flowing through the first main electrode, and for controlling the protection switch to remove a control signal to the control electrode of the power switching transistor to turn off the power switching transistor if the rate of change exceeds a first predefined value.

2. (previously presented) The circuit of claim 1, wherein the sensing circuit comprises a capacitor coupled to a main electrode of the power switching transistor, and a resistor coupled to receive a pulse of current from said capacitor, such that a voltage developed across the resistor turns on the protection switch if the voltage across the resistor exceeds a second predefined value.

3. (original) The circuit of claim 2, wherein the protection switch comprises a transistor.

4. (original) The circuit of claim 3, wherein the protection switch comprises a bipolar junction transistor.

5. (original) The circuit of claim 4, wherein the resistor is coupled across the base-emitter junction of the protection transistor.

6. (original) The circuit of claim 4, further comprising a diode coupled across the base-emitter junction of the protection transistor to discharge the capacitor.

7. (original) The circuit of claim 3, wherein the protection switch comprises a field effect transistor (FET).

8. (original) The circuit of claim 1, wherein the power switching transistor comprises a field effect transistor (FET).

9. (currently amended) An overcurrent protection circuit for a power switching transistor wherein the power switching transistor has a control electrode and first and second main electrodes, the first main electrode coupled to a storage capacitor, the circuit comprising:

a protection transistor having a control electrode and first and second main electrodes, the first main electrode of the protection transistor coupled to the control electrode of the power switching transistor and the second main electrode of the protection transistor coupled to a reference potential; [,] ~~the protection transistor having a control electrode~~[;]

a sensing capacitor having first and second terminals, the first terminal of the sensing capacitor coupled to the first main electrode of the power switching transistor and the storage capacitor, the sensing capacitor being adapted to generate a current representative of the rate of change of voltage with respect to time across the storage capacitor; and

a sensing resistor having first and second terminals, the first terminal of the sensing resistor coupled to the reference potential, and the second terminal of the sensing resistor coupled to both the control electrode of the protection transistor and the second terminal of the sensing capacitor, [and adapted to receive the current from the sensing capacitor;] the sensing capacitor providing a current to the sensing resistor to develop a sensing voltage across the sensing resistor to turn on the protection transistor if the sensing voltage across the sensing resistor exceeds a predefined sensing voltage value;

wherein the protection transistor is adapted to remove a control signal to the control electrode of the power switching transistor to turn off the power switching transistor if the rate of

change of voltage with respect to time across the storage capacitor exceeds a first predefined rate of change value.

10. (canceled)

11. (currently amended) The circuit of claim ~~10~~ 9, wherein the protection transistor comprises a bipolar junction transistor.

12. (original) The circuit of claim 11, wherein the resistor is coupled across the base-emitter junction of the protection transistor.

13. (currently amended) The circuit of claim ~~10~~ 9, wherein the protection transistor comprises a field effect transistor (FET).

14. (original) The circuit of claim 9, wherein the power switching transistor comprises a field effect transistor (FET).

15. (currently amended) A power supply comprising:

a power switching transistor having a control electrode and two main electrodes;

a storage capacitor operable to draw current through the main electrodes of the power switching transistor when the power switching transistor is conductive; and

an overcurrent protection circuit operable to sense the rate of change of voltage with respect to time across the storage capacitor and comprising a protection transistor having a control electrode and first and second main terminals, the first main electrode of the protection transistor coupled to the control electrode of the power switching transistor, [and] the protection transistor operable to remove a control signal to the control electrode of the power switching transistor to turn off the power switching transistor if the rate of change exceeds a predefined rate of change value;

wherein the storage capacitor is coupled between one of the main electrodes of the power switching transistor and a circuit common;

the overcurrent protection circuit further comprising:

a sensing capacitor having first and second terminals, the first terminal of the sensing capacitor coupled to the main electrode of the power switching transistor coupled to the storage capacitor, the sensing capacitor responsive to the rate of change of voltage with respect to time across the storage capacitor; and

a sensing resistor having first and second terminals, the first terminal of the sensing resistor coupled to the circuit common, and the second terminal of the sensing resistor coupled to both the control electrode of the protection transistor and the second terminal of the sensing capacitor, the sensing resistor adapted to develop a sensing voltage in response to the rate of change of voltage with respect to time across the storage capacitor;

wherein the sensing capacitor is operable to generate a current in response to the rate of change of voltage with respect to time across the storage capacitor, and the sensing resistor is operable to develop the sensing voltage in response to the current through the sensing capacitor;

wherein the second main electrode of the protection transistor is coupled to the circuit common and the protection transistor is adapted to turn off the power switching transistor if the sensing voltage across the sensing resistor exceeds a predefined voltage value.

Claims 16-19. (canceled)